

PATENT

Attorney Docket No. MYCOLOGX-06279

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) A method for the detection of phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities in a sample, comprising the steps of:

- a) providing:
 - i) a sample suspected to contain phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities,
 - ii) glucose-6-phosphate,
 - iii) glutamine,
 - iv) acetyl coenzyme A, and
 - v) 5,5'-dithiobis(2-nitrobenzoic acid);
- b) combining said sample, said glucose-6-phosphate, said glutamine, and said acetyl coenzyme A under conditions to yield reaction products comprising coenzyme A and N-acetylglucosamine-6-phosphate;
- c) inactivating said phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities; and
- d) combining said reaction product comprising coenzyme A and 5,5'-dithiobis(2-nitrobenzoic acid) under conditions to yield a chromogenic reaction product comprising ~~2-nitro-thiobenzoate~~ 2-nitro-thiobenzoate anion, wherein said chromogenic reaction product is indicative of phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities

2. (original) The method of Claim 1, wherein said sample comprises a lysate selected from the group consisting of crude cell lysates and gel filtered cell lysates.

PATENT

Attorney Docket No. MYCOLOGX-06279

3. (original) The method of Claim 2, wherein said lysate is a fungal cell lysate selected from the group consisting of *Aspergillus* cell lysates, *Candida* cell lysates, *Cryptococcus* cell lysates, *Histoplasma* cell lysates, *Pneumocystis* cell lysates, *Rhizopus* cell lysates, *Saccharomyces* cell lysates, and *Schizosaccharomyces* cell lysates.
4. (original) The method of Claim 1, wherein said sample comprises purified fungal enzymes selected from the group consisting of phosphoglucose isomerases, ketol-isomerases and acetyltransferases.
5. (original) The method of Claim 1, wherein said sample comprises recombinant fungal enzymes selected from the group consisting of phosphoglucose isomerases, ketol-isomerases and acetyltransferases.
6. (currently amended) A method for the detection of a compound having the ability to inhibit phosphoglucose isomerase, ketol-isomerase and/or acetyltransferase activities in a sample, comprising the steps of:
- a) providing:
 - i) a sample suspected to contain phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities,
 - ii) glucose-6-phosphate,
 - iii) glutamine,
 - iv) acetyl coenzyme A,
 - v) 5,5'-dithiobis(2-nitrobenzoic acid), and
 - vi) a candidate compound;
 - b) preparing a first and second reaction mixture, wherein said first reaction mixture comprises said sample, said glucose-6-phosphate, said glutamine, and said acetyl coenzyme A, and wherein said second reaction mixture comprises said sample, said glucose-6-phosphate, said glutamine, said acetyl coenzyme A and said candidate compound;

PATENT

Attorney Docket No. MYCOLOGX-06279

- c) incubating said first and second reaction mixtures under conditions to yield reaction products comprising coenzyme A and N-acetylglucosamine-6-phosphate;
- d) inactivating said phosphoglucose isomerase, ketol-isomerase and acetyltransferase activities;
- e) combining said first and second reaction mixtures with said 5,5'-dithiobis(2-nitrobenzoic acid) under conditions to yield a chromogenic reaction product comprising ~~2-nitro-thiobezate~~ 2-nitro-thiobenzoate anion; and
- f) comparing the quantity of said chromogenic reaction product in said first and second reaction mixtures.

7. (original) The method of Claim 6, further comprising step g) scoring said candidate compounds as positive for the ability to inhibit phosphoglucose isomerase, ketol-isomerase and/or acetyltransferase activities in a sample, when said second reaction mixture yields less than 50% of said chromogenic reaction product than said first reaction mixture.

8. (original) The method of Claim 6, wherein said sample comprises a lysate selected from the group consisting of crude cell lysates and gel filtered cell lysates.

9. (original) The method of Claim 8, wherein said lysate is a fungal cell lysate selected from the group consisting of *Aspergillus* cell lysates, *Candida* cell lysates, *Cryptococcus* cell lysates, *Histoplasma* cell lysates, *Pneumocystis* cell lysates, *Rhizopus* cell lysates, *Saccharomyces* cell lysates, and *Schizosaccharomyces* cell lysates.

10. (original) The method of Claim 6, wherein said sample comprises purified fungal enzymes selected from the group consisting of phosphoglucose isomerases, ketol-isomerases and acetyltransferases.

PATENT

Attorney Docket No. **MYCOLOGX-06279**

11. (original) The method of Claim 6, wherein said sample comprises recombinant fungal enzymes selected from the group consisting of phosphoglucose isomerases, ketol-isomerases and acetyltransferases.

12. (original) The method of Claim 6, wherein said candidate compound is present in an extract selected from the group consisting of extremophile extracts, marine macroorganism extracts, cyanobacterial extracts and algal extracts.

13-21 (canceled)